SONY

FLAT WIDE DISPLAY MONITOR

FWD-40LX2F
FWD-40LX2X

REMOTE COMMANDER
RM-FW001

SPEAKER SYSTEM
SS-SP40FW

SERVICE MANUAL
1st Edition (Revised 1)

⚠警告

このマニュアルは，サービス専用です。
お客様が，このマニュアルに記載された設置や保守，点検，修理などを行うと感電や火災，人身事故につながることがあります。
危険をさけるため，サービストレーニングを受けた技術者のみご使用ください。

⚠WARNING

This manual is intended for qualified service personnel only.
To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

⚠WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.
Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

⚠AVERTISSEMENT

Ce manual est destiné uniquement aux personnes compétentes en charge de l’entretien. Afin de réduire les risques de décharge électrique, d’incendie ou de blessure n’effectuer que les réparations indiquées dans le mode d’emploi à moins d’être qualifié pour en effectuer d’autres. Pour toute réparation faire appel à une personne compétente uniquement.

注意

指定以外の電池に交換すると，破裂する危険があります。
使用済の電池は，説明書に従って処理してください。

CAUTION

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.
Dispose of used batteries according to the manufacturer's instructions.

Vorsicht!

Explosionsgefahr bei unsachgemäßem Austausch der Batterie.

Ersatz nur durch denselben oder einen vom Hersteller empfohlenen ähnlichen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

ATTENTION

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie.

Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur.
Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

For the customers in the Netherlands
Voor de klanten in Nederland

Hoe u de batterijen moet verwijderen, leest u in de tekst van deze handleiding.

Gooi de batterij niet weg maar lever deze in als klein chemisch afval (KCA).

ADVARSEL!

Lithiumbatteri-Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

ADVARSEL

Lithiumbatteri - Eksplosjonsfare.
Ved utskifting benyttes kun batteri som anbefalt av apparatfabrikanten.
Brukt batteri returneres apparatleverandøren.

VARNING

Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en likvärdig typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt gällande föreskrifter.

VAROITUS

Paristo voi räjähtää jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin.
Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

Für Kunden in Deutschland

Entsorgungshinweis: Bitte werfen Sie nur entladene Batterien in die Sammelboxen beim Handel oder den Kommunen. Entladen sind Batterien in der Regel dann, wenn das Gerät abschaltet und signalisiert "Batterie leer" oder nach längerer Gebrauchsdauer der Batterien "nicht mehr einwandfrei funktioniert". Um sicherzugehen, kleben Sie die Batteriepole z.B. mit einem Klebestreifen ab oder geben Sie die Batterien einzeln in einen Plastikbeutel.

For the customers in Taiwan only

廢電池請回收

Notes on Wall Mounting

For Sony Dealers

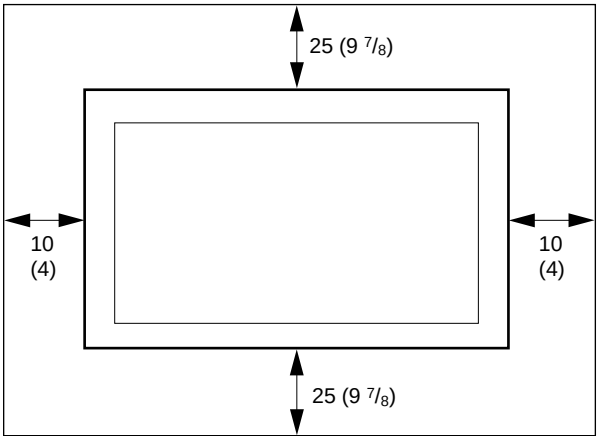
Sufficient expertise is required for installing this product on the wall. Be sure to read the instruction manual provided with the Wall-Mount Bracket thoroughly to do the installation work safely. Sony is not liable for any damages or injury caused by mishandling or improper installation.
Be sure to use the UL approved Wall-Mount Bracket which is tested with FWD-40LX2F/40LX2X based on IEC60950 and UL60950.
SONY is not liable for any damages or injury caused by using any Wall-Mount Bracket which is not Approved by UL.
Be sure to install the Display Unit securely to the wall following the instructions given in the instruction manual of the Wall-Mount Bracket.
If any of the screws are loose or fall out, the Display Unit may fall and cause injury or property damage. Be sure to use the appropriate screws for the material of the wall and install the unit securely.
If the wall on which the Wall-Mount Bracket is installed is unstable, uneven, or not perpendicular to the floor, the unit may fall and cause injury or property damage.
The wall should be capable of supporting a weight of at least four times the Display Unit weight, 104.0 kg. (The Display Unit weight of FWD-40LX2F/40LX2X is approximately 26.0 kg.)
Be sure to use the specified screws and attachment parts properly following the instructions given in the instruction manual of the Wall-Mount Bracket. If you use substitute items, the Display Unit may fall, and cause bodily injury to someone or damage to the Display Unit.
Be sure to assemble the bracket properly following the instructed procedure explained in the instruction manual of the Wall-Mount Bracket.
Be sure to tighten the screws securely in the designated position.
If you fail to do so, the Display Unit may fall, and cause bodily injury to someone or damage to the Display Unit.
Do not disassemble or make alterations to the parts of the Wall-Mount Bracket.
If you do so, the Wall-Mount Bracket may fall and cause injury or property damage.
Do not mount any equipment other than the specified product.
If you mount equipment other than specified in the instruction manual of the Wall-Mount Bracket, it may fall or break, and cause injury or property damage.
Do not install the Display Unit over or under an air-conditioner.
If the Display Unit is exposed to water leaks or air current from an air-conditioner for a long time, it may cause a fire, an electric shock or a malfunction of the Display Unit.
Do not allow the mains lead or the connecting cable to be pinched.
If the mains lead or the connecting cable is pinched between the unit and the wall or is bent or twisted by force, the internal conductors may become exposed and cause a short circuit or an electrical break. This may cause a fire or an electric shock.
After proper installation of the Display Unit, secure the cables properly.
If people or objects get tangled in the cables, this may result in injury or damage to the Display Unit.
Be careful not to hurt your hands or fingers when installing the Display Unit.

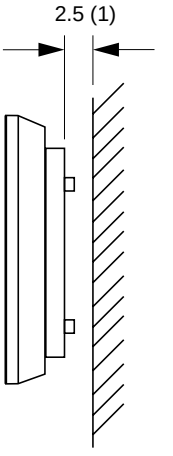
Caution

Provide an ample amount of space around the display

- When you set up the Display Unit, make sure there is more space around the display than that shown in the figure below. This will allow for proper ventilation.
- Wile the unit is on, a certain amount of heat builds up inside. This can cause burns. Avoid touching the top or rear of the unit when it is powered on or just after it has entered standby mode.

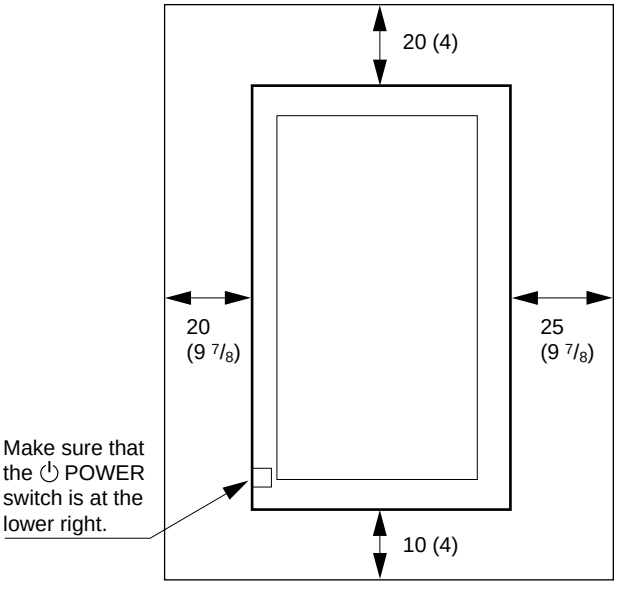
When mounting the display horizontally

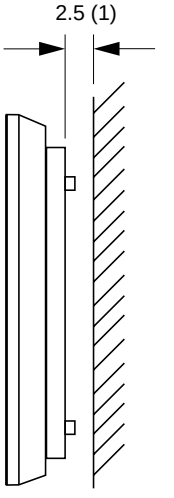




Unit : cm (inches)

When mounting the display vertically





Unit : cm (inches)

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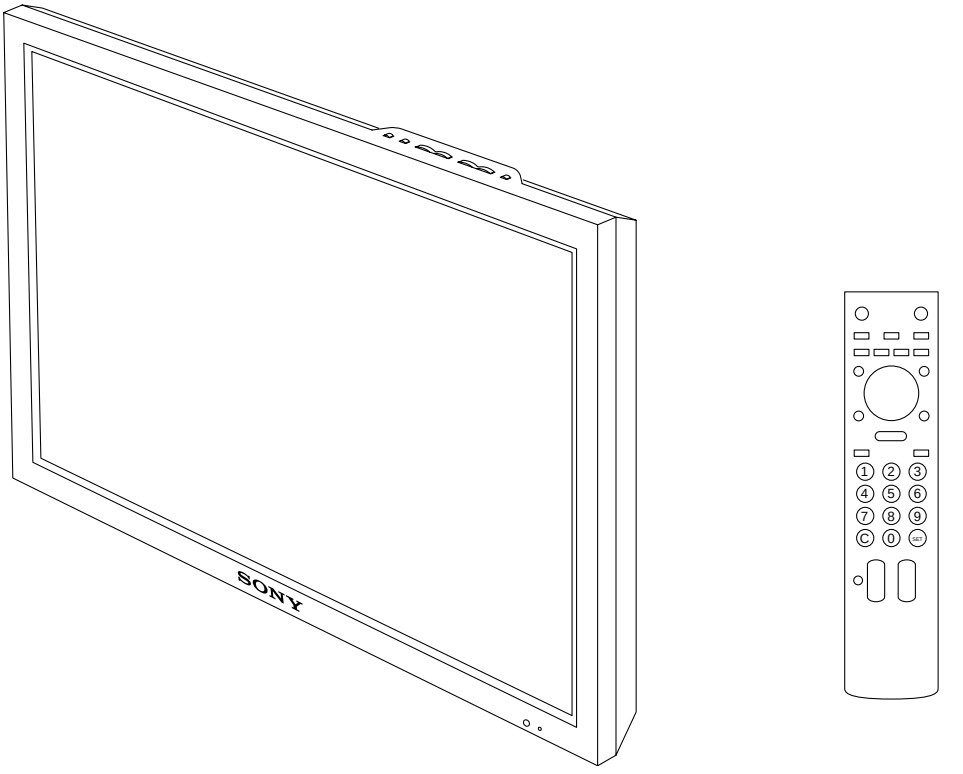
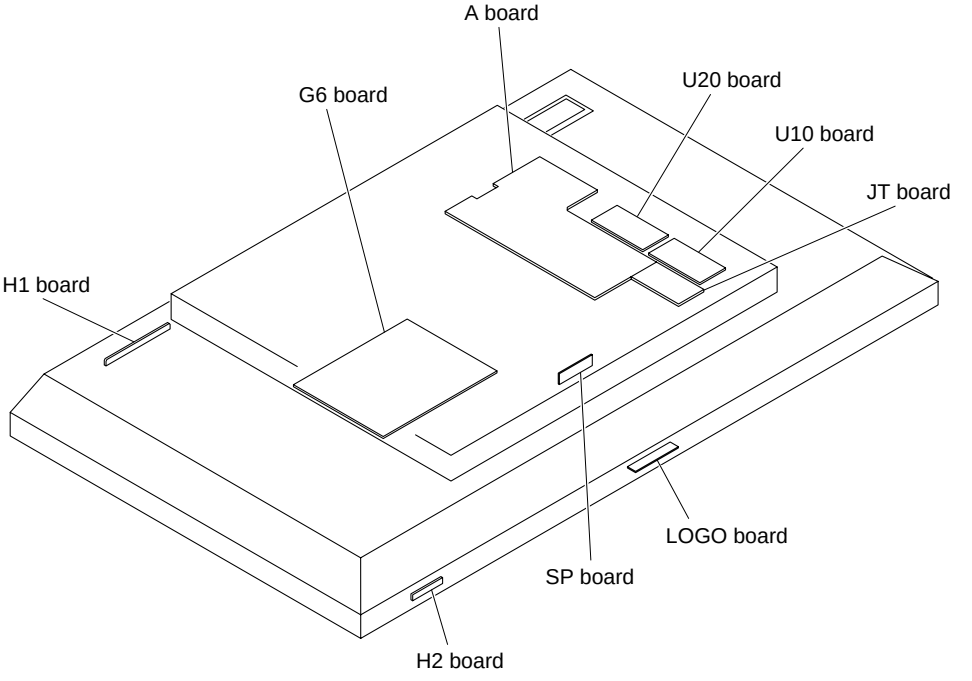
Section 1
Service Overview

1-1. Appearance Figure



1-2. Board Location



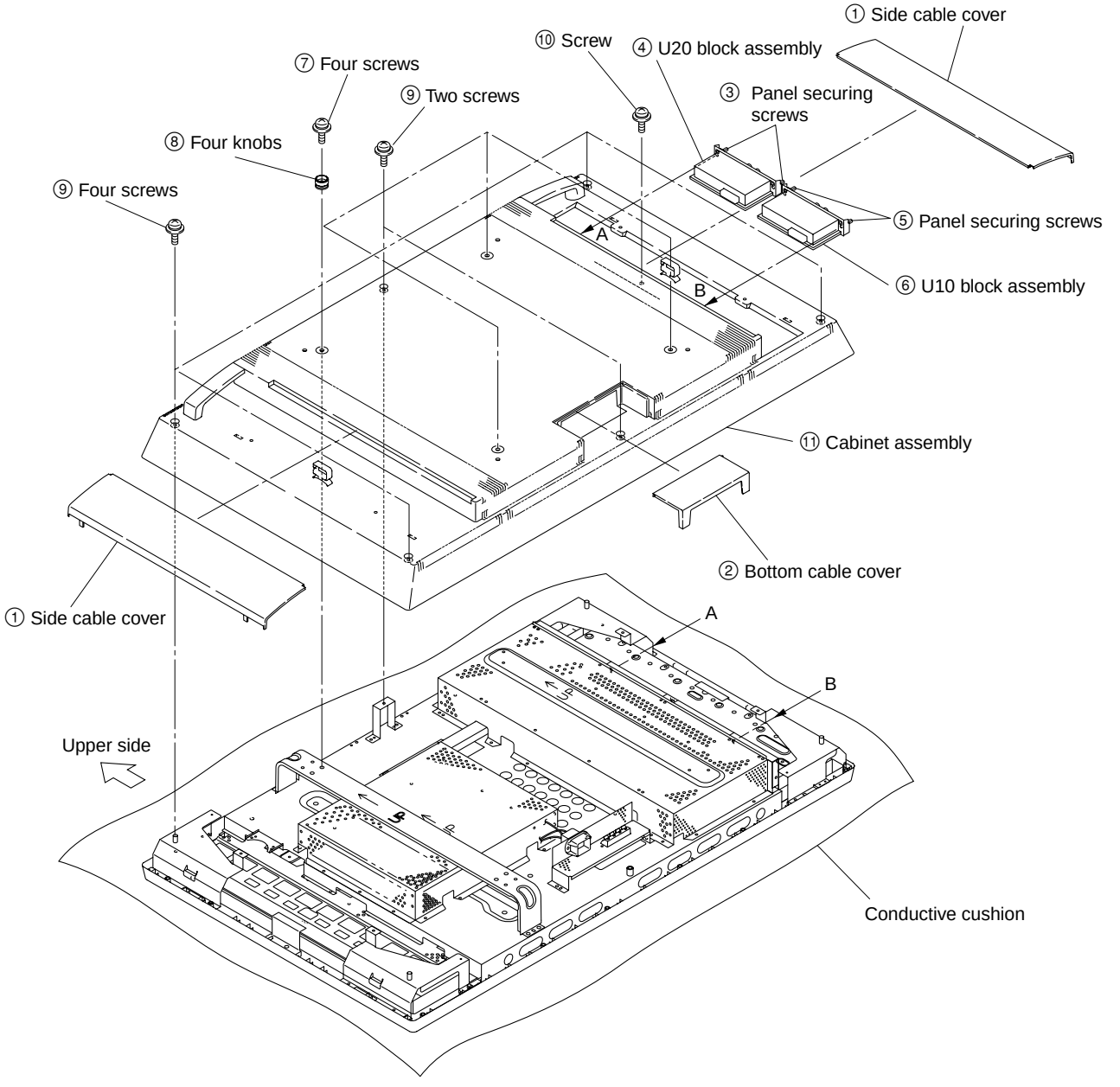
1-3. Disassembly

Note

When removing/installing the cabinet and replacing the board, place the unit on the conductive cushion.

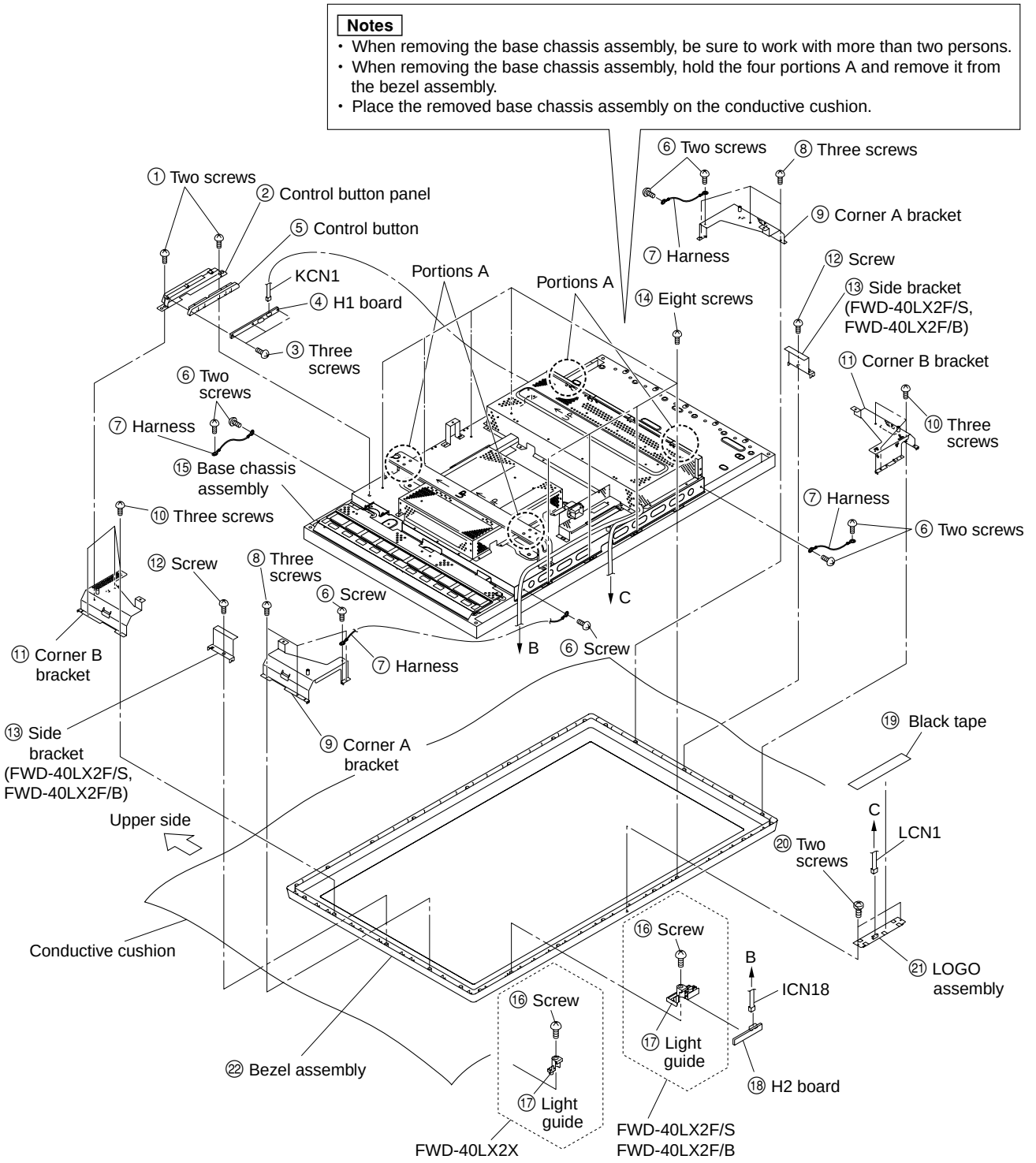
1-3-1. Cabinet Assembly

The illustration indicates FWD-40LX2F/S and FWD-40LX2F/B.



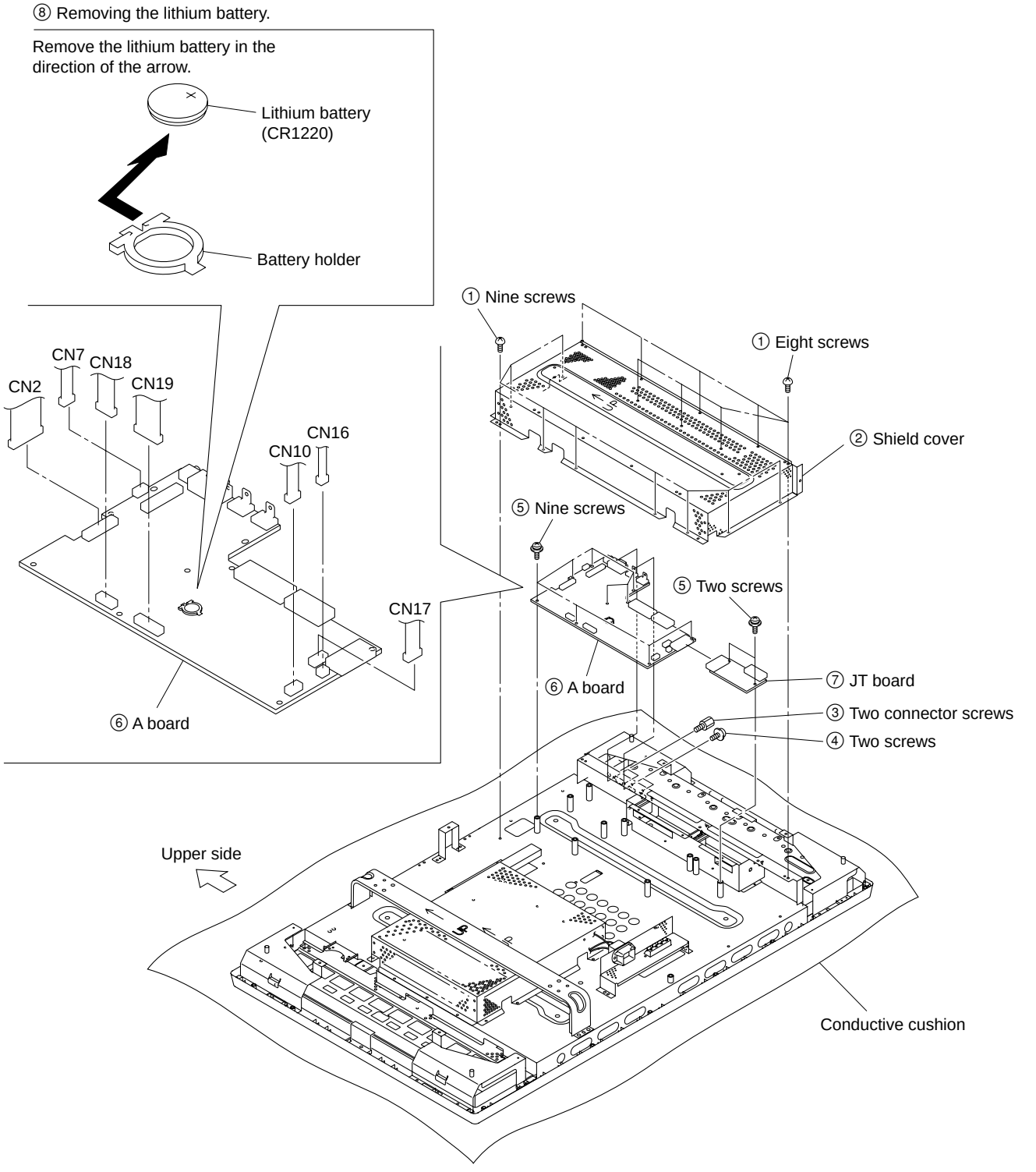
1-3-2. Bezel Assembly/H1 Board/H2 Board/LOGO Assembly

• Remove the cabinet assembly. (Refer to Section 1-3-1.)



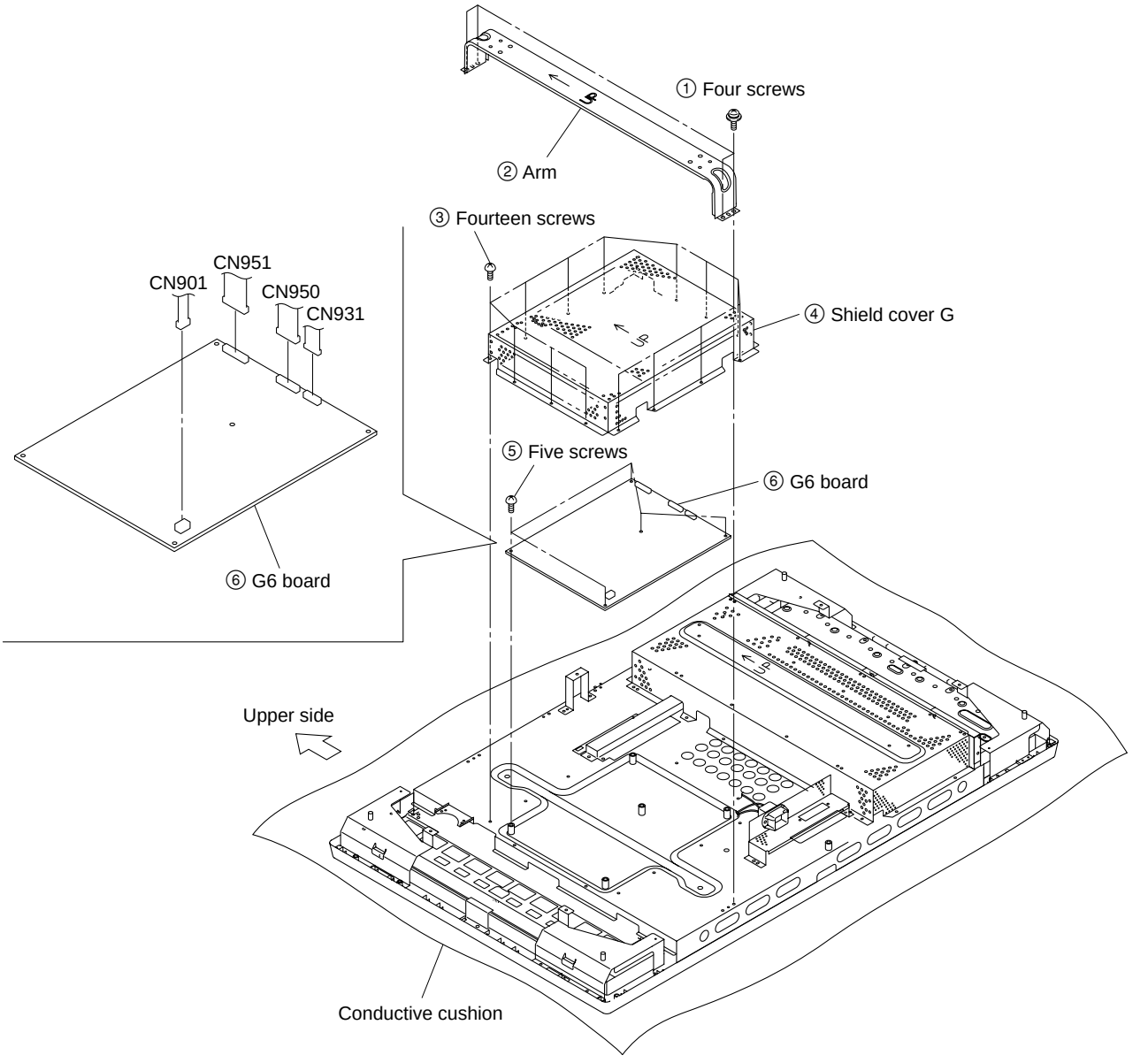
1-3-3. A Board/JT Board

• Remove the cabinet assembly. (Refer to Section 1-3-1.)



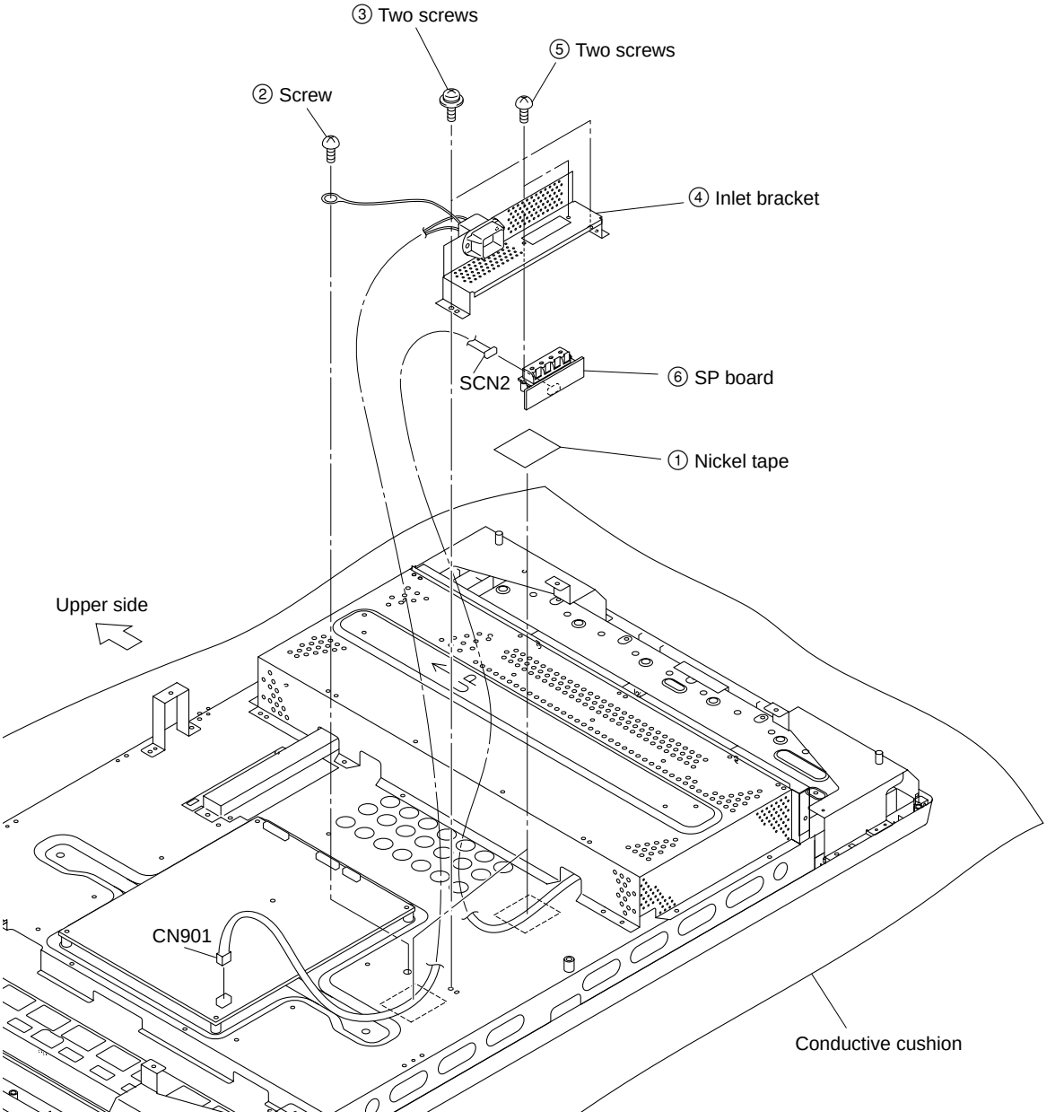
1-3-4. G6 Board

• Remove the cabinet assembly. (Refer to Section 1-3-1.)



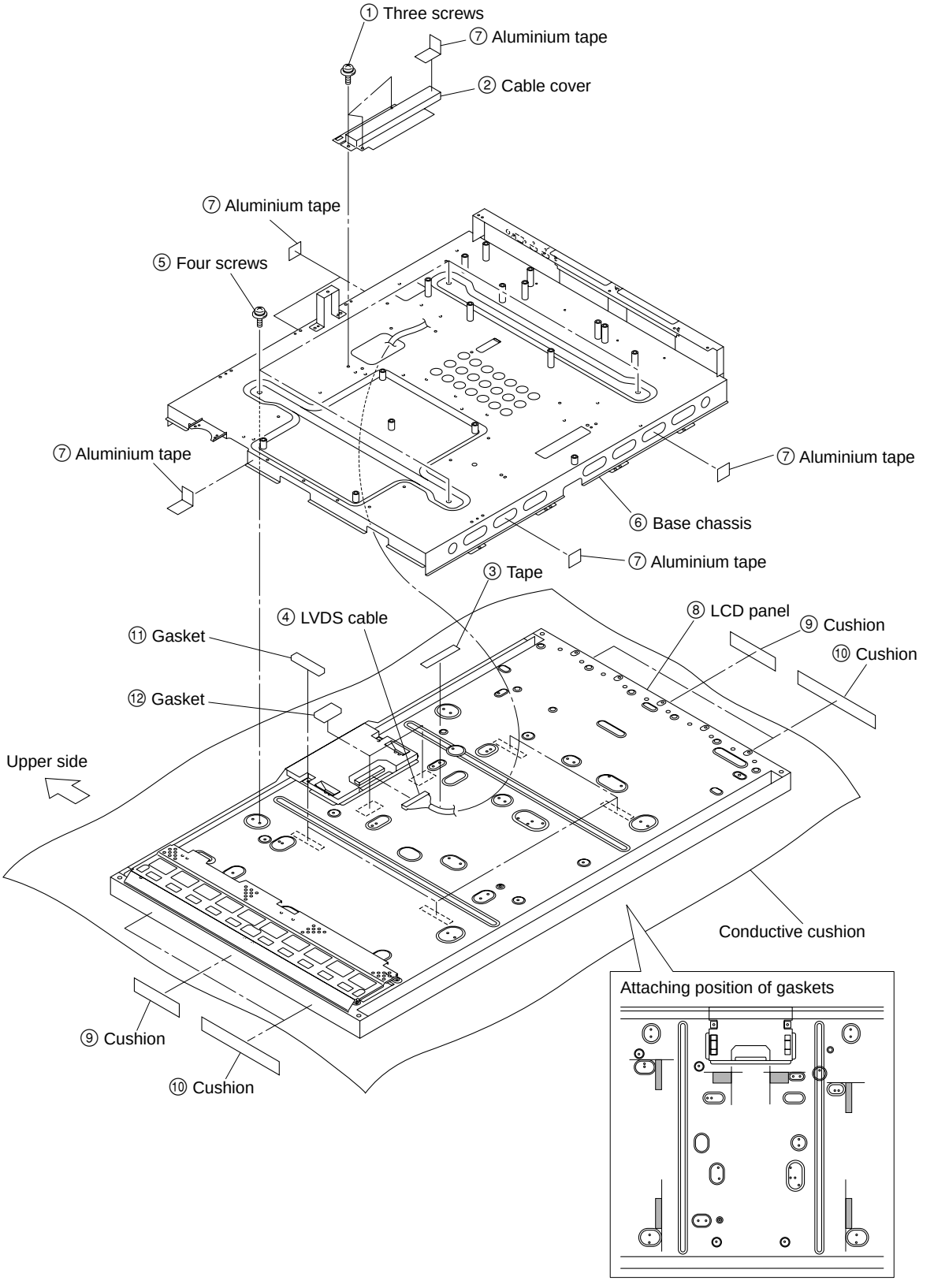
1-3-5. SP Board

- Remove the cabinet assembly. (Refer to Section 1-3-1.)
- Remove the arm and shield cover G. (Refer to Section 1-3-4.)



1-3-6. LCD Panel

• Remove each part. (Refer to Sections 1-3-1 to 1-3-5.)



1-4. Warning on Power Connection

Use the proper power cord for your local power supply.

	United States, Canada	Continental Europe	UK, Ireland, Australia, New Zealand	Japan
Plug type	VM0233	COX-07/636	–[1)]	VM1296
Female end	VM0089	COX-02/VM0310B	VM0303B	VM1313
Cord type	SVT	H05VV-F	CEE (13) 53rd (O, C)	HVCTF
Minimum cord set rating	10 A/125 V	10 A/250 V	10 A/250 V	10 A/125 V
Safety approval	UL/CSA	VDE	VDE	DENAN-HO

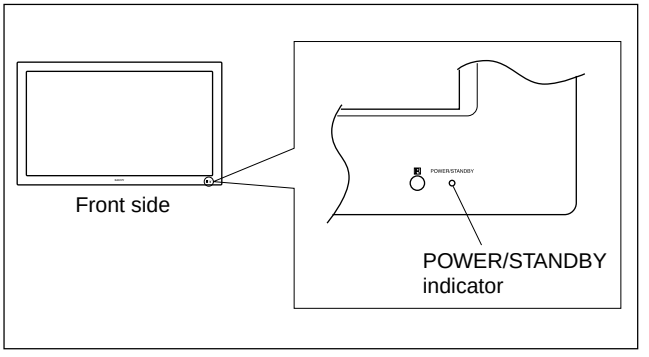
1) Use an appropriate rating plug which complies with local regulations.

Section 2
Troubleshooting

2-1. Judgment When No Image is Displayed

The status in the case where “No image is displayed” is displayed according to the number of times when the POWER/STANDBY indicator in the lower-right position of this unit’s front panel blinks in red. Blinking of two to three times or five times is repeated after several seconds.

Number of blinking times	Status
Two times	An error code is detected from the panel.
Three times	When the sensor temperature exceeds the allowable value
Five times	13 V power supply is detected.



2-2. Self-Diagnosis Function

The self-diagnosis function installed in this unit forcibly shuts down this unit when the items below are detected (abnormality is generated) or when the allowable value are exceeded. The detected items and the allowable values are as described below.

1. Panel error

This monitors the operation abnormality of a panel inverter. This unit shuts down when the INV_DET signal input from CN19 on the A board remains high after the power is turned on.

2. Increase in sensor temperature

This detects the temperature of the A board and power supply boards (G6 board). This unit shuts down when the state in which the temperatures below were exceeded is detected for two seconds or more.

- A board: 76 ˚C
- Power supply board: 100 ˚C

3. Abnormality of supply voltage

The DC voltage error detection in the A board is performed. This unit is shut down when the voltage of 13 V becomes 6.9 V or less after the power is turned on.

The indicator flashes when an abnormal voltage is detected for approximately 50 seconds. The power may be shut down before the indicator starts flashing.

Section 3
Circuit Description

The main functions of each board in this unit are as described below.

- A board
  This board mounts an HD15 connector and two HDMI connector interfaces. It processes a video signal together with the signal from an option board using a scaler and outputs data to the display panel. This board also outputs the selected audio signal to the SP board.
- JT board
  This is a relay board used for connecting the option board and A board of slot 2.
- H1 board
  This is a user interface board. This board mounts [POWER], [INPUT]/[ENTER], [MENU], [UP], [DOWN], [RIGHT], and [LEFT] buttons.
- H2 board
  This board mounts two-color LED, which displays the status of this unit, and a remote control photosensing block.
- LOGO board
  This is an LED board used for shining a SONY logo.
- SP board
  This board mounts a speaker output terminal for audio output.
- G6 board
  This is a power board that has output voltages of STBY5 V, 5 V, 12 V, and 13 V.

3-1. A Board

The A board mounts HD15 (CN1), HDMI1 (CN12), and HDMI2 (CN11) as a video input terminal. The signal from option slot 1 is input from CN14, and the signal from option slot 2 is input from CN13 through the JT board. The RGB/YPbPr signals from HD15, and slots 1 and 2 are directly input to a scaler circuit (U5). HDMI1 and HDMI2 signals are switched using an equalizer (U20), and the selected TMDS signal is input to the scaler circuit. An equalizer switches signals and controls the signal output, by the port control (SEL_H and CE_H) from a scaler circuit. The CVBS and Y/C signals from an option slot are input through a π-type filter circuit to a scaler circuit. The video signal from which an HDMI signal was eliminated is input to a scaler circuit without passing through a switch circuit. However, the RGB sync signals from slots 1 and 2, and HD15 are selected using a switching circuit (U3) by HV_SA and HV_SB signals and input to a scaler circuit. The input signal from HD15 is used for a video sync signal. It is switched using a switching circuit (U4) by a SYNC_MO signal and input to the port of a scaler circuit that differs from the case of an H sync signal.
In a scaler circuit, resolution is converted according to the display panel, and various picture qualities as well as wide-angle setting or zoom setting are set and LVDS-transferred to the panel through CN2.

There are the analog input from a mini-jack (CN3), slot 1, or slot 2 and the digital input from HDMI in an audio input. An analog audio signal is input to an audio processor circuit (U14). The audio signal from HDMI is output from a scaler circuit as an I^2S signal and input to U14. The audio processor circuit is controlled by I^2C to switch the input and set the sound quality and volume. The selected audio signal is passed through an amplifier circuit (U17) and output to the SP board through CN10. The mini-jack input cannot be only selected as the function of the main unit only during HD15 input, but also it can be selected as an audio input during conversion of DVI into HDMI. An audio signal is muted by the software control of an audio processor and the hardware control of an amplifier.

This unit is used for BKM-FW20 that has RS-232C and Control-S as an option board. The RS-232C (UART) signal from an option slot is selected using a switching circuit (U41). The signals from option slots 1 and 2 are selected when OP1_RS_EN or OP2_RS_EN is set low on the option side. OP1_RS_EN or OP2_RS_EN is low during initial setting of BKM-FW20. Slot 2 has priority when both OP1_RS_EN and OP2_RS_EN are low. The selected RS-232C signal is connected to the control port or firmware write port of a scaler circuit using a switching circuit (U31). It is switched to the firmware write port position when an FWE signal is set low on the option side as the control of U31. The FWE signal is high during initial setting of BKM-FW20. The signal (IR) from a remote control photosensing block is shifted in level to a signal (IRO) of 5 V to 3.3 V using U27, branching to each option slot connector. The Control-S signals (OP1_IRI and OP2_IRI) from the IRO signal and each option slot are input to a switching circuit (U29), selected, and input to the IR port of a scaler circuit. Which signal to select is determined by controlling the OP1_S_EN and OP2_S_EN signals from each option. When BKM-FW20 is not connected, each signal is set high and an IRO signal is selected. The IRI signal from each slot is selected when OP1_S_EN and OP2_S_EN signals are set low. Slot 2 has priority when both OP1_S_EN and OP2_S_EN signals are low. The OP1_S_EN and OP2_S_EN signals are low during initial setting of BKM-FW20.

The A board mounts a real time clock circuit (U11). The real time clock circuit is controlled by I^2C. A timer function is controlled based on the time read operation by polling from a scaler. During timer correction, a timer is adjusted to an error of 3 ppm by outputting a pulse of 1 Hz to CN8 and putting a correction value in the register of IC according to the obtained measurement value. The corrected value is obtained in the adjustment stage of a single board at a factory and stored in memory. It is not lost even in the state in which the power is not connected. A button battery is connected to RTC. Even with the AC power not connected, power is supplied to IC so that U11 operates continuously.

The backlight of LCD is controlled by the PWM signal (BL_CONT) from a scaler circuit. The PWM signal is inverted using Q20, integrated using R373 and C356, and output to CN19 as a DC signal (INV_ADJ). The On/Off signal (PBIAS) of a panel inverter is output from the dedicated port of a scaler and then output from CN19 as an INV_ON signal.

A PWM signal (LOGO_PWM) is output from a scaler circuit to the LOGO board that shines a SONY logo. The output signal of an amplifier circuit (U28) is integrated to drive LED on the LOGO board as a DC signal. This LED is turned on and off using the LOGO_EN signal from a scaler circuit.

An option board is discriminated by discriminating OP1_SENSE1, OP1_SENSE2, OP2_SENSE1, and OP2_SENSE2 signals at the ADC port of a scaler circuit using a voltage. These signals are passed through IC (U30) and switched using the control signals (Q_SEL1 and Q_SEL2) from the scaler circuit. Only when the power is turned on, these signals are switched and the option board is discriminated. After that, the output signal U30 is switched to power temperature (PS_TEMP) and polled as a self-diagnosis function.

3-2. H1 Board

A button input signal is sent to the A board as a DC voltage signal. 1 V, 1.5 V, and 2.2 V are sent to an ADC_IN2 signal when you press the MENU, INPUT, and LEFT buttons. 1 V, 1.5 V, and 2.2 V are sent to an ADC_IN1 signal when you press the RIGHT, DOWN, and UP buttons. 0 V is sent when you press only the POWER button as a PWR_KEY signal. Each signal is set to 3.3 V when you press no button.

3-3. H2 Board

The H2 board mounts an infrared remote control photosensor (IU1) and sends data to the A board as an IR signal. This board also mounts two-color LED (ID5) that displays the status of this unit. The LED controls light emission by controlling the cathode.

3-4. G6 Board

AC input/rectification block

CN901 on the G6 board is connected to an AC inlet and AC power is input from the AC inlet. The input AC power is passed through an AC noise filter consisting of C910, C901, C904, L901, L903, and L904 and bridge-rectified using BD901.

PFC converter

AC power is rectified using BD901 and the power factor is improved using a PFC converter consisting of Q911, IC911, T911, D912, C920, and C921. Moreover, an output voltage is increased and stabilized to 390 VDC. The smoothed output voltage is supplied to a standby converter and main converter.

Standby converter

5 V (5 VD and 5 VS) and 12 V are output from a switching converter consisting of IC931 and T931. 5 VD is output from CN931 (pins 2 to 4), and 5 VS is output from CN931 (pin 8). 12 V is output from CN950 (pins 6 and 7). During standby, however, the output voltage that is not increased, but smoothed is supplied from a PFC converter.

Main converter

17 V and 13 V are output from a switching converter consisting of IC950, IC951, Q950, Q951, T950, and T913. 17 V is output from CN951 (pins 1 to 5), and 13 V is output from CN950 (pins 2 and 3).

Main ON/OFF control

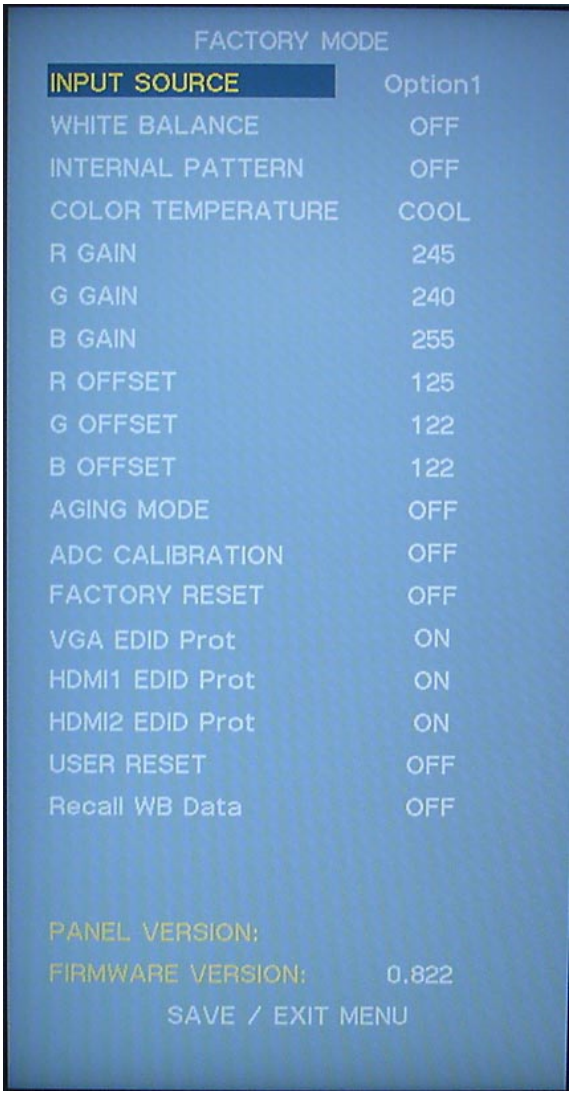
A PFC converter and main converter are turned on and off by CN931 (pin 1) when a PS signal is set high and low using a microcomputer. Q934 is turned on when a PS signal is high. A PFC converter is turned on when Q931 is turned on. A main converter is started when IC913 is started after Q931 is turned on. Q934 is turned off when a PS signal is low. A PFC converter and main converter stop operation when Q931 is turned off and when IC913 is stopped.

Section 4
Electrical Alignment

4-1. Service Mode

4-1-1. Start

1. Input any signal to this unit.
2. Turn on the power of this unit.
3. Perform the operation below using a remote controller (RM-FW001) supplied for this unit with OSD not displayed.
   (1) Press the ⊹ button two times.
   (2) Press the MUTING button.
   (3) Press the ⊹ button.
   (4) Press the MUTING button.
   (5) Press the MENU button.
   The service mode is started.



Note

To exit this screen, press the MENU button.

4-2. White Balance Adjustment

This unit is adjusted to the prescribed white balance during factory setting. The average value of white balance is written in the A board during factory setting. (AD calibration has also been adjusted during factory setting.)
Perform the adjustment in this section when white balance adjustment is required.

Initial values of A board

∗1	RED ∗1	GREEN ∗1	BULE ∗2	RED ∗2	GREEN ∗2	BLUE
COOL	235	223	255	122	125	124
NEUTRAL	253	238	250	122	124	125
WARM	255	235	222	121	123	125

∗1: GAIN
∗2: OFFSET

4-2-1. Preparation

Required equipment

- Signal generator

  Note

  It is recommended to use 480i (HD15 Component) as a connection signal. However, the signal to be actually input can also be used.
- Color thermometer

Preparation

1. Input a signal to this unit and age for 30 minutes or more.

4-2-2. Setting

1. Start the service mode. (Refer to Section 4-1-1.)
2. Select “HD15” by “INPUT SOURCE” in a menu.

   Note

   Select according to the input signal when inputting any signal.

4-2-3. Cool Adjustment

1. Select “COOL” by “Color Temperature” in a menu.
2. Put the sensor of a color thermometer to the center of the screen.
3. Input a fully white signal of 65% (IRE).
4. Change the R GAIN, G GAIN, and B GAIN values in a menu and adjust so that x and y satisfy the specifications below.
   COOL:
   x = 272 ±1, y = 277 ±1
5. Input a fully white signal of 25% (IRE).
6. Change the R OFFSET, G OFFSET, and B OFFSET values in a menu and adjust so that x and y satisfy the specifications below.
   COOL:
   x = 269 ±3, y = 275 ±3
7. Repeat steps 3 to 6 to keep balance.
8. Exit the service mode using a MENU button.
   The adjustment data is saved.

4-2-4. Neutral Adjustment

1. Select “NEUTRAL” by “Color Temperature” in a menu.
2. Put the sensor of a color thermometer to the center of the screen.
3. Input a fully white signal of 65% (IRE).
4. Change the R GAIN, G GAIN, and B GAIN values in a menu and adjust so that x and y satisfy the specifications below.
   NEUTRAL:
   x = 287 ±1, y = 294 ±1
5. Input a fully white signal of 25% (IRE).
6. Change the R OFFSET, G OFFSET, and B OFFSET values in a menu and adjust so that x and y satisfy the specifications below.
   NEUTRAL:
   x = 287 ±3, y = 293 ±3
7. Repeat steps 3 to 6 to keep balance.
8. Exit the service mode using a MENU button.
   The adjustment data is saved.

4-2-5. Warm Adjustment

1. Select “Warm” by “Color Temperature” in a menu.
2. Put the sensor of a color thermometer to the center of the screen.
3. Input a fully white signal of 65% (IRE).
4. Change the R GAIN, G GAIN, and B GAIN values in a menu and adjust so that x and y satisfy the specifications below.
   WARM:
   x = 305 ±1, y = 315 ±1
5. Input a fully white signal of 25% (IRE).
6. Change the R OFFSET, G OFFSET, and B OFFSET values in a menu and adjust so that x and y satisfy the specifications below.
   WARM:
   x = 308 ±3, y = 317 ±3
7. Repeat steps 3 to 6 to keep balance.
8. Exit the service menu using a MENU button.
   The adjustment data is saved.

Section 5
Spare Parts

5-1. Notes on Repair Parts

1. Safety Related Components Warning

WARNING

Components marked ⚠ are critical to safe operation. Therefore, specified parts should be used in the case of replacement.

2. Standardization of Parts

Some repair parts supplied by Sony differ from those used for the unit. These are because of parts commonality and improvement.

3. Stock of Parts

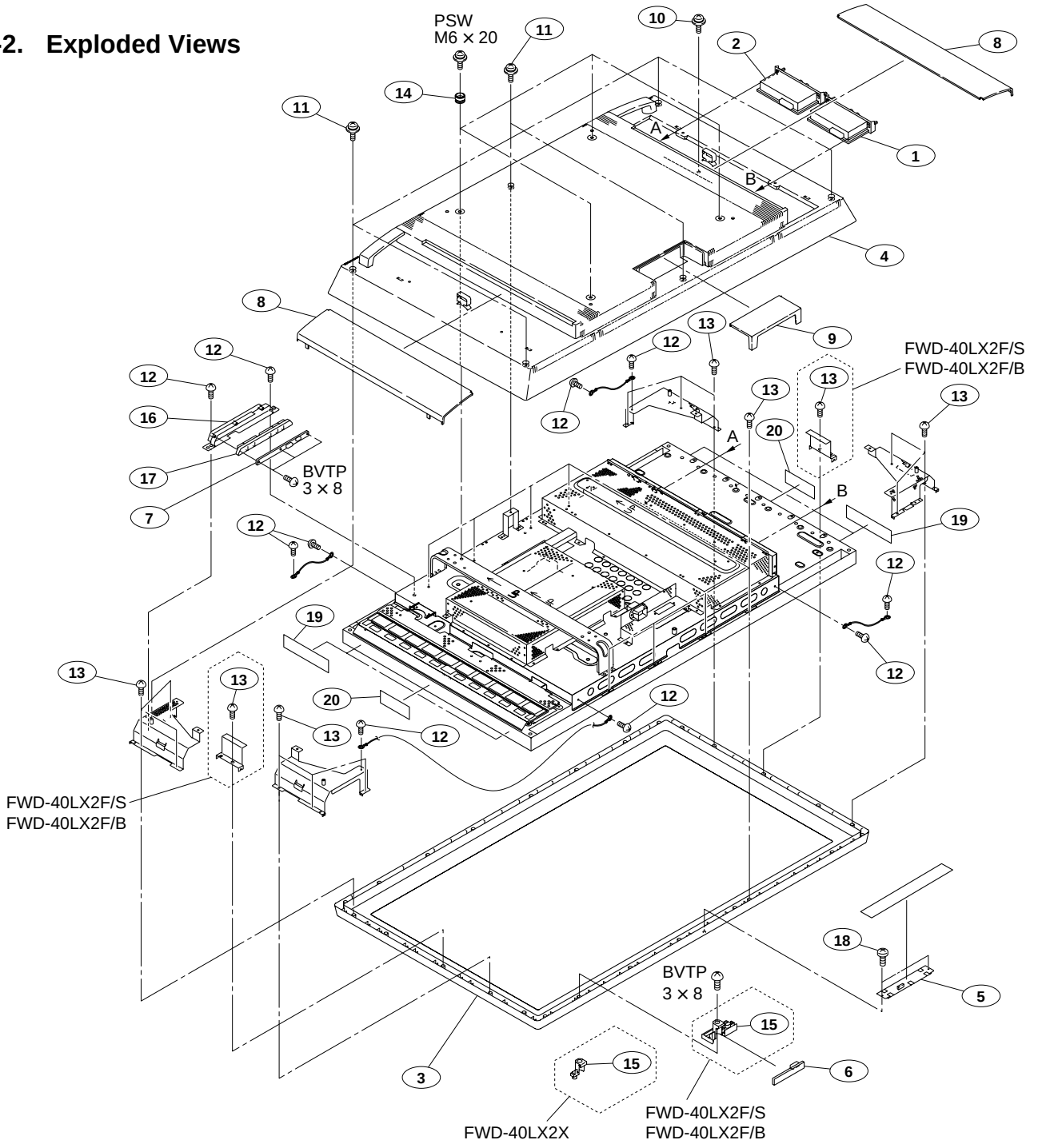
Parts marked with “o” at SP (Supply Code) column of the spare parts list may not be stocked. Therefore, the delivery date will be delayed.

4. Harness

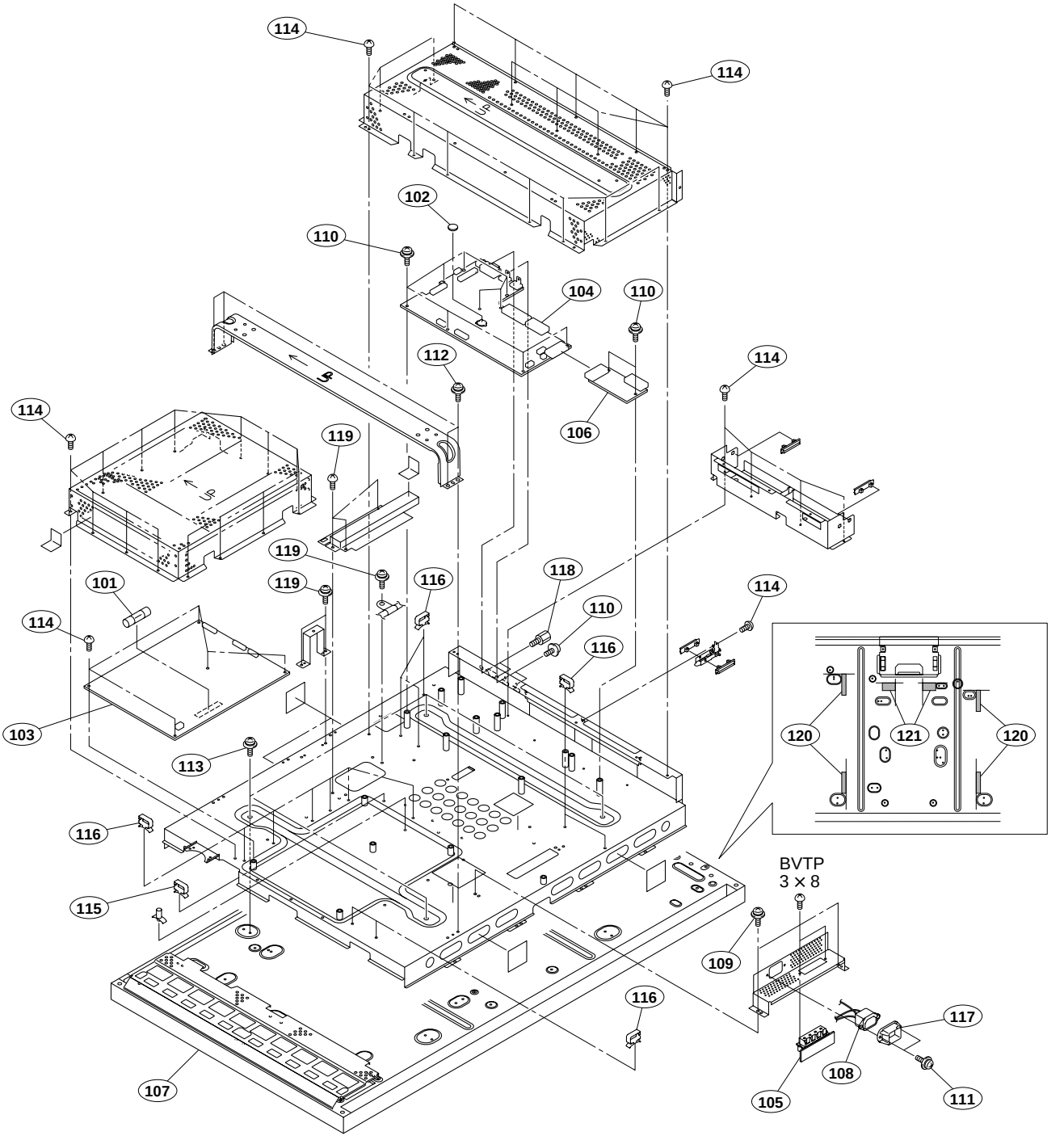
Harnesses with no part number are not registered as spare parts.

The components identified by mark 🔒 contain confidential information.
Strictly follow the instructions whenever the components are repaired and/or replaced.

5-2. Exploded Views



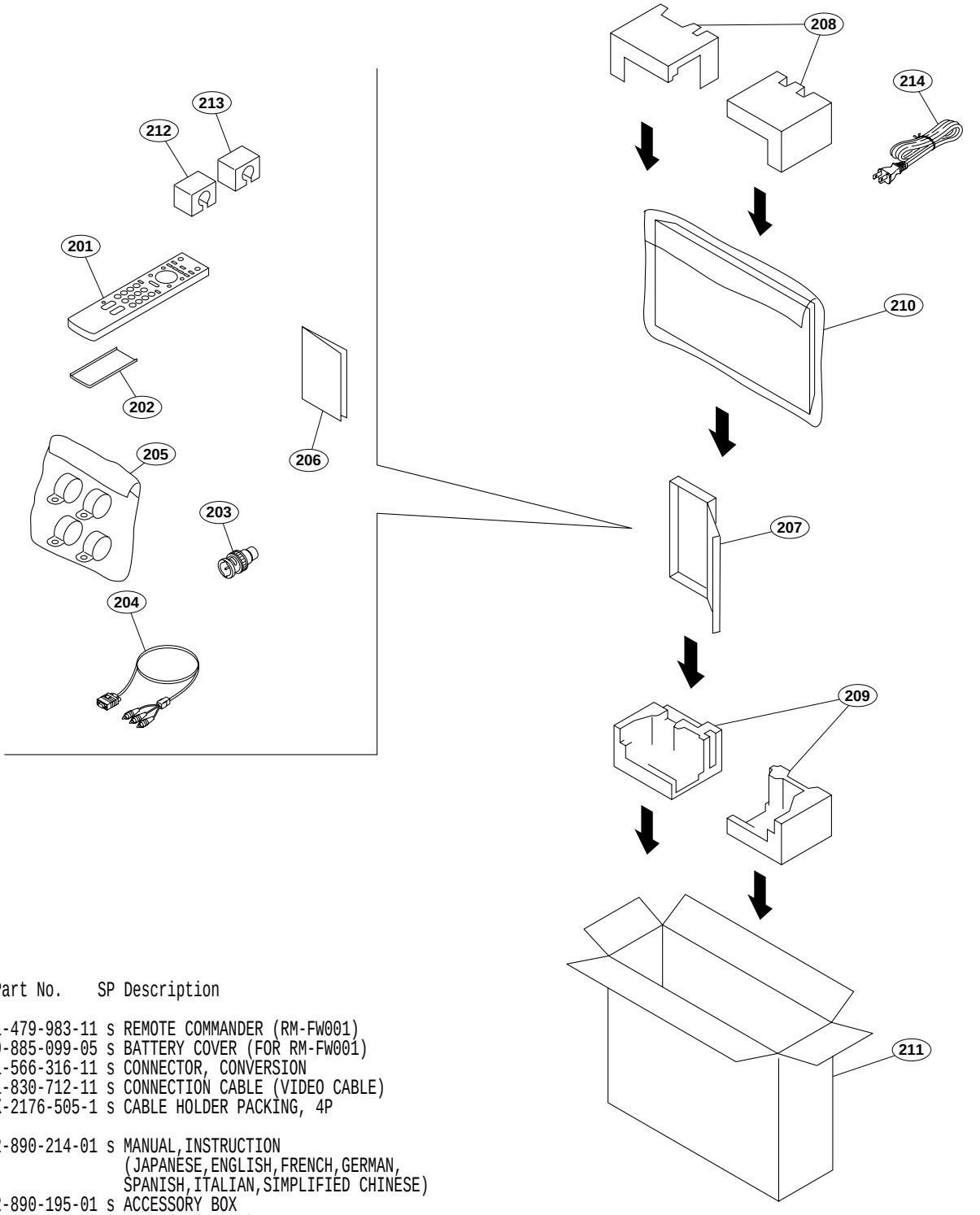
No.	Part No.	SP	Description
1	A-1215-079-A	o	U10 BLOCK ASSY
2	A-1215-080-A	o	U20 BLOCK ASSY
3	X-2149-770-1	s	BEZEL ASSY (FOR FWD-40LX2F/S)
	X-2159-382-1	s	BEZEL ASSY (FOR FWD-40LX2F/B)
	X-2067-326-2	s	BEZEL ASSY (FOR FWD-40LX2X)
4	X-2149-771-1	s	CABINET ASSY
5	1-789-684-11	s	MOUNTED CIRCUIT BOARD, LOGO
6	1-789-685-11	s	MOUNTED CIRCUIT BOARD, H2
7	1-789-686-11	s	MOUNTED CIRCUIT BOARD, H1
8	2-159-507-11	s	CABLE COVER, SIDE
9	2-159-508-11	s	CABLE COVER BOTTOM
10	2-580-594-01	s	SCREW, +PSW M3X12
11	2-580-602-01	s	SCREW, +PSW M4X12
12	2-580-628-01	s	SCREW, +BVST 3X6
13	2-580-639-01	s	SCREW, +BVTP2 4X12
14	2-667-019-01	s	HOOK
15	2-681-589-21	s	LIGHT GUIDE (FOR FWD-40LX2F/S)
	2-681-589-31	s	LIGHT GUIDE (FOR FWD-40LX2F/B)
	2-159-493-02	s	LIGHT GUIDE (FOR FWD-40LX2X)
16	2-697-732-01	s	CONTROL BUTTON PANEL
17	2-697-733-01	s	CONTROL BUTTON
18	3-254-058-01	s	SCREW
19	2-319-096-51	o	CUSHION
20	2-319-096-41	o	CUSHION
	7-628-000-10	s	SCREW +PSW M6X20
	7-685-646-79	s	SCREW +BVTP 3X8 TYPE2 IT-3



No.	Part No.	SP	Description
101	⚠ 1-576-233-51	s	FUSE (H.B.C.) (6.3A/250V)
102	⚠ 1-756-157-11	s	BATTERY, LITHIUM
103	1-789-674-11	s	MOUNTED CIRCUIT BOARD, G6
104	1-789-676-11	s	MOUNTED CIRCUIT BOARD, A (FOR FWD-40LX2F/S, FWD-40LX2F/B)
	1-789-678-11	s	MOUNTED CIRCUIT BOARD, A (FOR FWD-40LX2X)
105	1-789-682-11	s	MOUNTED CIRCUIT BOARD, SP
106	1-789-683-11	s	MOUNTED CIRCUIT BOARD, JT
107	1-802-267-12	s	LCD PANEL (40INCH WXGA TFT)
	1-802-267-22	s	LCD PANEL (40INCH WXGA TFT)
	1-802-267-32	s	LCD PANEL (40INCH WXGA TFT)
108	1-820-823-11	s	AC INLET
109	2-580-592-01	s	SCREW, +PSW M3X8
110	2-580-593-01	s	SCREW, +PSW M3X8

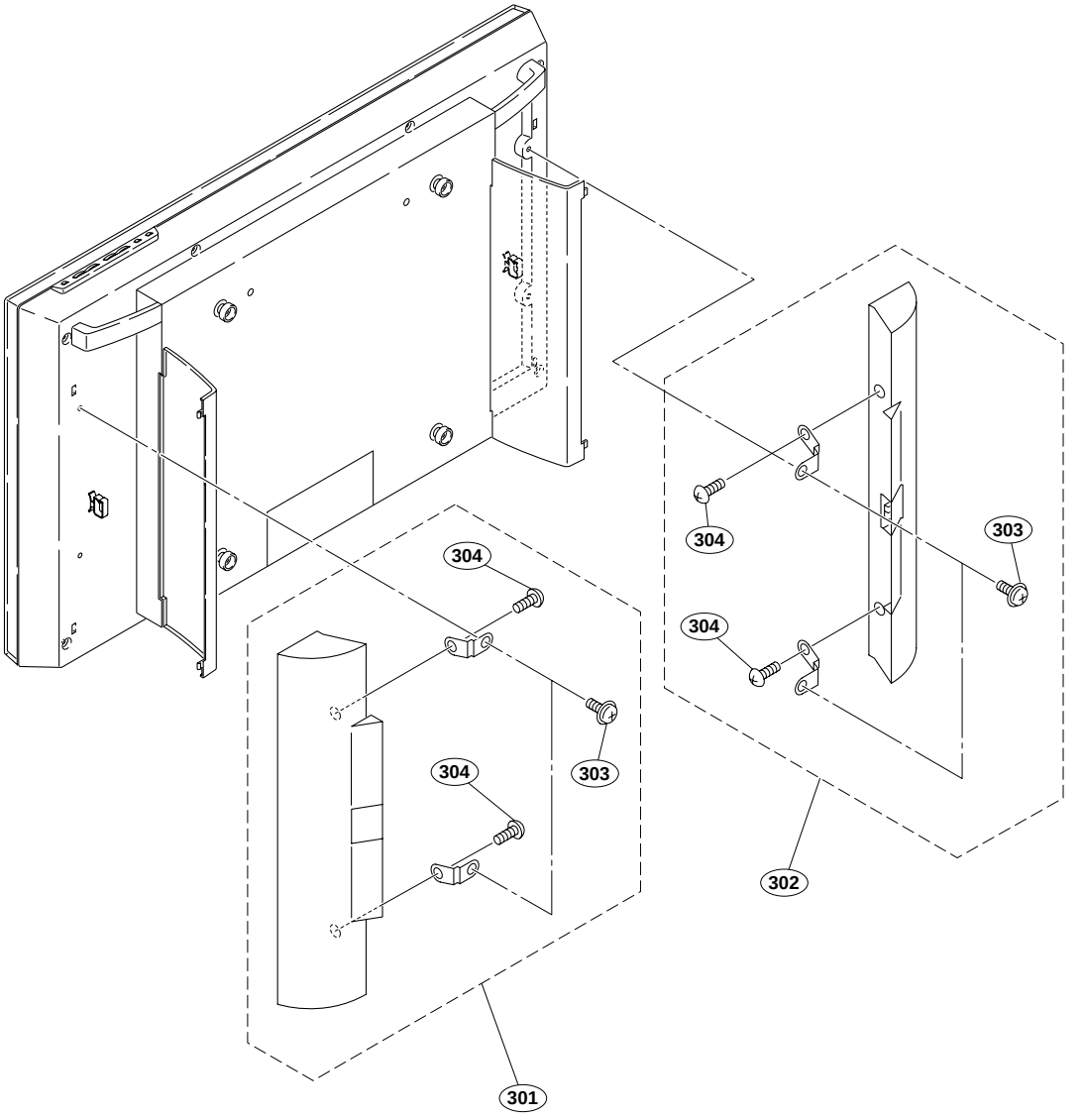
No.	Part No.	SP	Description
111	2-580-594-01	s	SCREW, +PSW M3X12
112	2-580-602-01	s	SCREW, +PSW M4X12
113	2-580-606-01	s	SCREW, +PSW M5X8
114	2-580-628-01	s	SCREW, +BVST 3X6
115	2-890-185-11	s	WIRE SADDLE
116	2-890-185-01	s	WIRE SADDLE
117	2-990-241-02	s	HOLDER (A), PLUG
118	4-083-966-01	s	SCREW, HEXAGON
119	2-580-591-01	s	SCREW, PSW M3X5
120	2-898-753-01	s	GASKET
121	2-898-753-11	s	GASKET
	7-685-646-79	s	SCREW +BVTP 3X8 TYPE2 IT-3

Packing Block



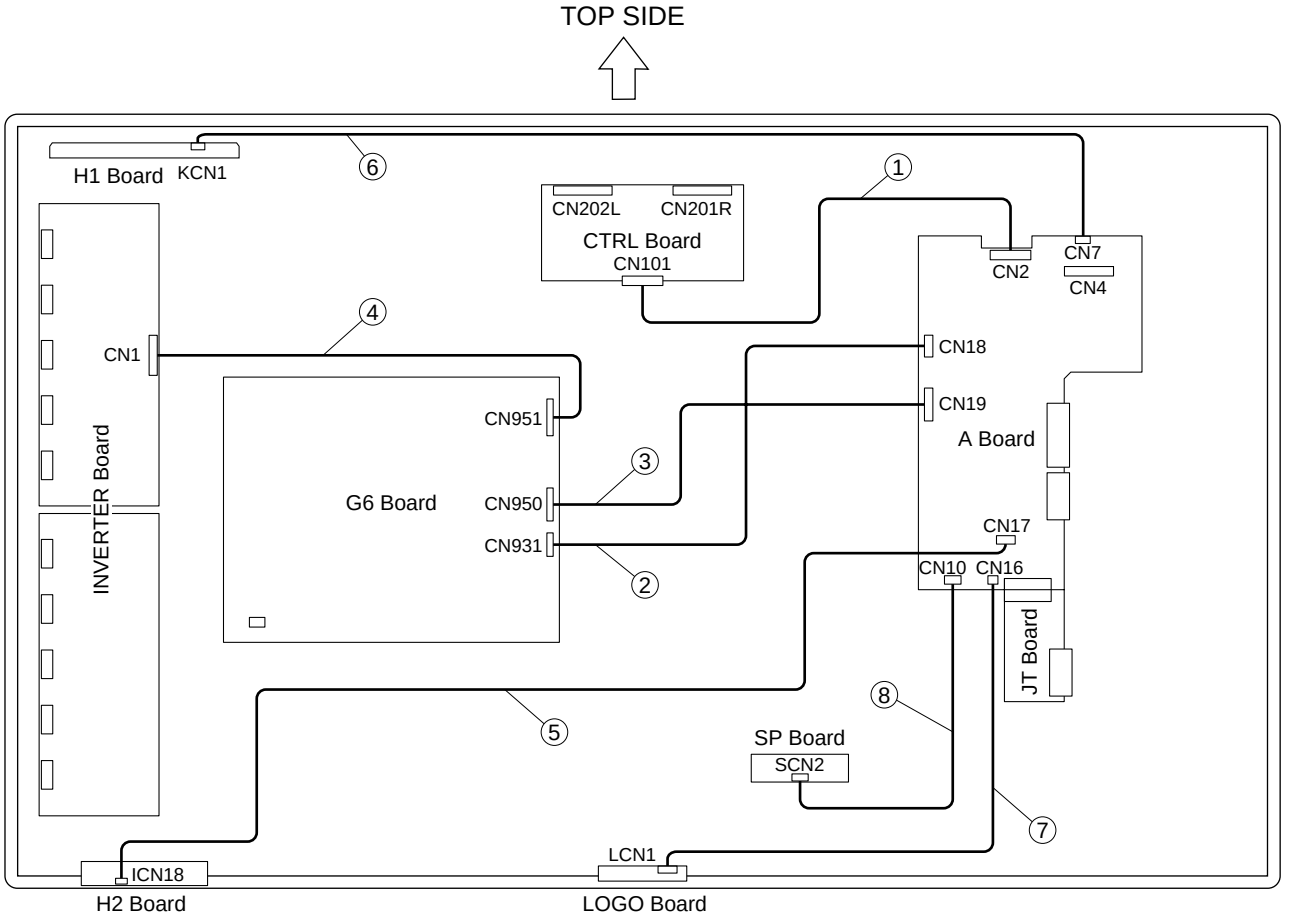
No.	Part No.	SP	Description
201	1-479-983-11	s	REMOTE COMMANDER (RM-FW001)
202	9-885-099-05	s	BATTERY COVER (FOR RM-FW001)
203	1-566-316-11	s	CONNECTOR, CONVERSION
204	1-830-712-11	s	CONNECTION CABLE (VIDEO CABLE)
205	X-2176-505-1	s	CABLE HOLDER PACKING, 4P
206	2-890-214-01	s	MANUAL,INSTRUCTION (JAPANESE,ENGLISH,FRENCH,GERMAN, SPANISH,ITALIAN,SIMPLIFIED CHINESE)
207	2-890-195-01	s	ACCESSORY BOX
208	2-890-193-01	s	CUSHION (UPPER)
209	2-890-194-01	s	CUSHION (LOWER)
210	2-890-196-01	s	PROTECTION BAG
211	2-890-192-01	s	INDIVIDUAL CARTON
212	2-990-242-01	s	HOLDER (B), PLUG
213	3-613-640-01	o	PLUG,HOLDER C
214	⚠ ----------		CORD, POWER (See Sec.1-4. Warning on Power Connection)

SS-SP40FW



No.	Part No.	SP	Description
301	A-1127-888-A	s	SPEAKER ASSY (40R) (RP) (SILVER)
	A-1129-682-A	s	SPEAKER ASSY (40R) (RP) (PEARL WHITE)
302	A-1127-889-A	s	SPEAKER ASSY (40L) (RP) (SILVER)
	A-1129-683-A	s	SPEAKER ASSY (40L) (RP) (PEARL WHITE)
303	2-580-602-01	s	SCREW, +PSW M4X12
304	2-580-639-01	s	SCREW, +BVTP2 4X12

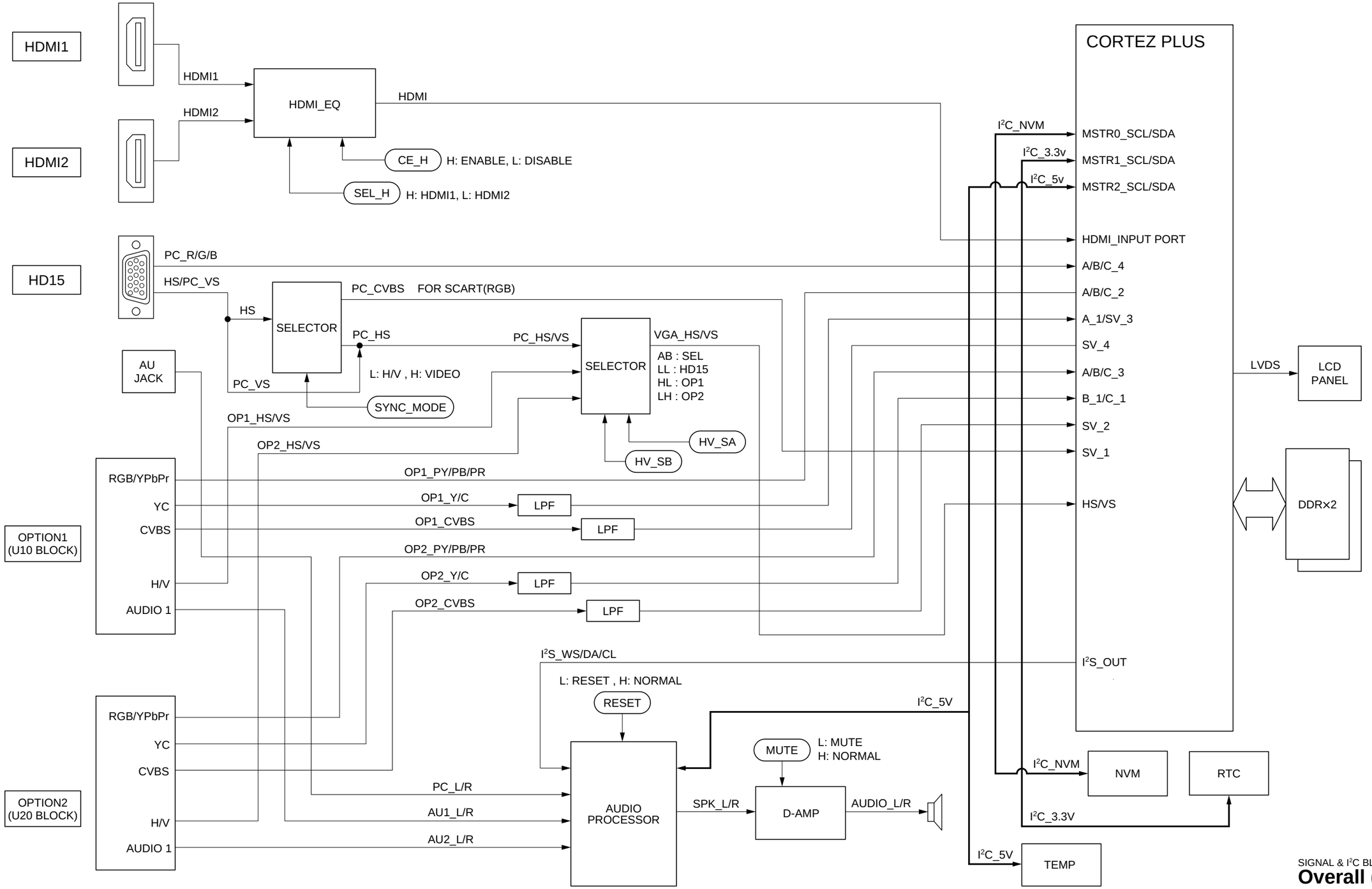
Board Connections



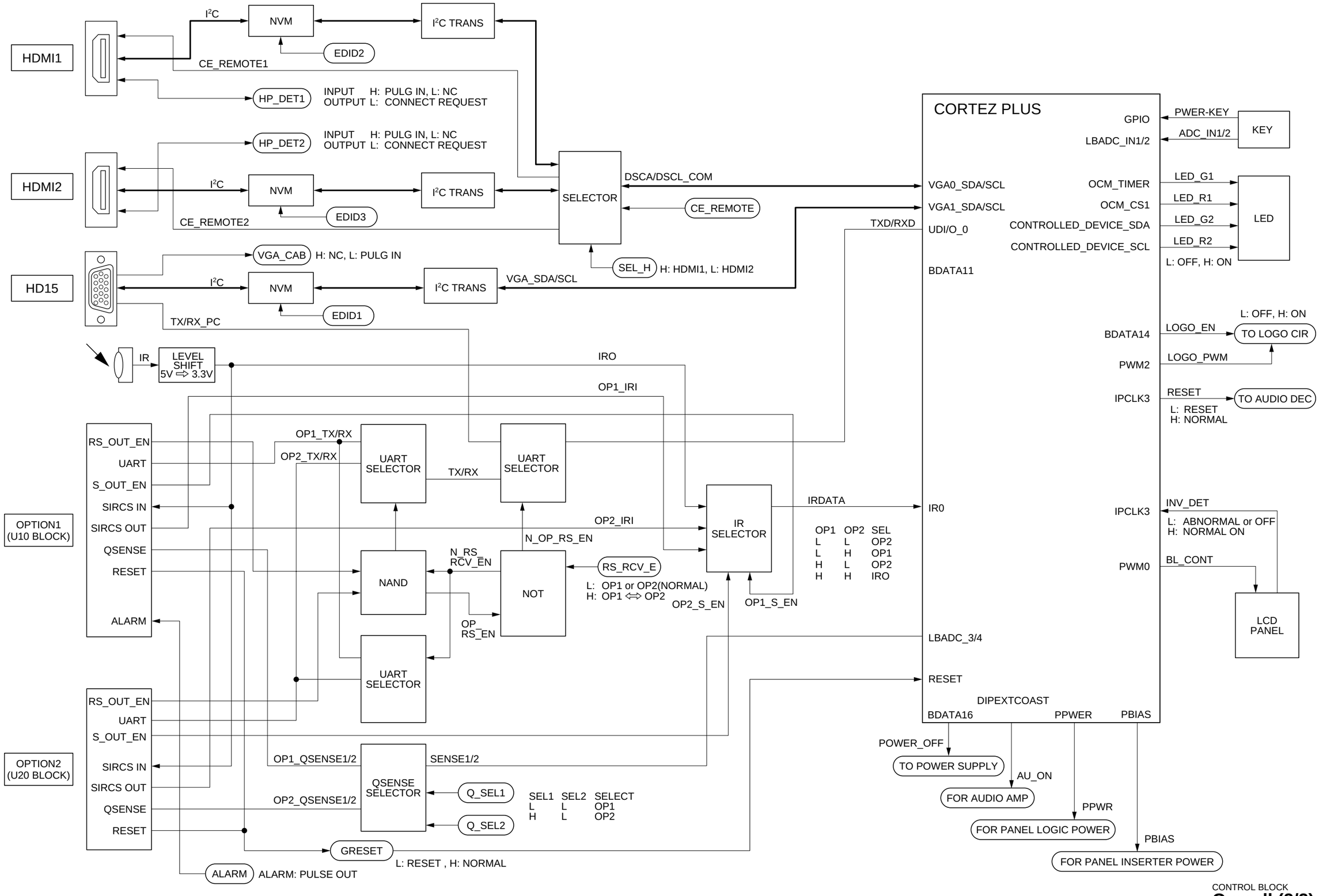
No.	Part No.	SP	Description
①	1-910-031-70	s	CONNECTOR ASSY (LVDS)
②	1-910-031-77	o	CONNECTOR ASSY 8P MAIN
③	1-910-031-78	o	CONNECTOR ASSY 12P MAIN
④	1-910-031-79	o	CONNECTOR ASSY 14P POWER
⑤	1-910-031-80	o	CONNECTOR ASSY 7P IR
⑥	1-910-031-81	o	CONNECTOR ASSY 5P KEY
⑦	1-910-031-82	o	CONNECTOR ASSY 3P LOGO
⑧	1-910-031-83	o	CONNECTOR ASSY 4P SP

Section 6
Diagrams

6-1. Overall Block Diagrams



SIGNAL & I²C BLOCK
Overall (1/2)

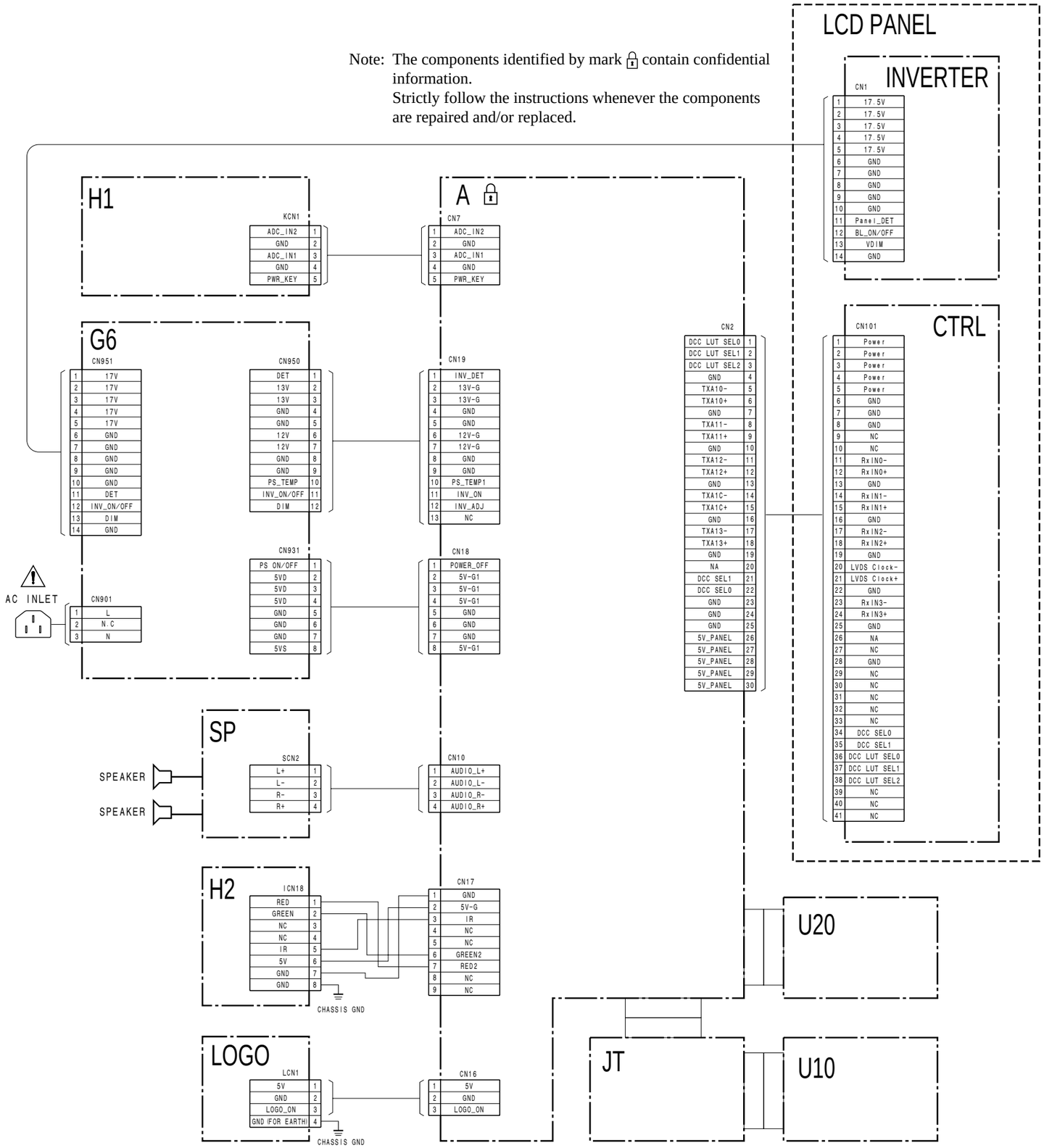


CONTROL BLOCK

Overall (2/2)

6-2. Frame Wiring

Note: The components identified by mark 🔒 contain confidential information.
Strictly follow the instructions whenever the components are repaired and/or replaced.



SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer :

Check the metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 3.5 mA. Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers’ instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The “limit” indication is 5.25 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 20 V AC range are suitable. (See Fig. A)

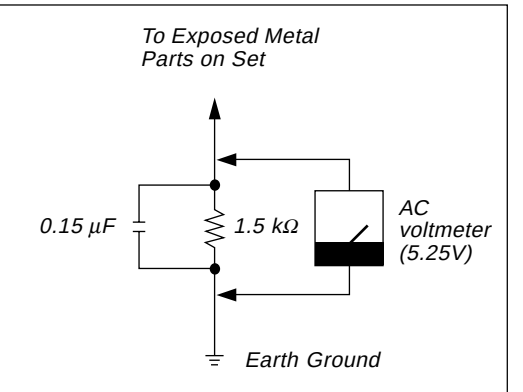


Fig A. Using an AC voltmeter to check AC leakage.

FWD-40LX2F (WW)
FWD-40LX2X (WW) E
9-834-142-02

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